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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,796	03/22/2004	James F. McGuckin JR.	1267	1069

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03/15/2007

EXAMINER

SONNETT, KATHLEEN C

ART UNIT

PAPER NUMBER

3731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/805,796

Applicant(s)

MCGUCKIN ET AL.

Examiner

Kathleen Sonnett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 18-26 is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/16/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/16/2007 has been entered.

Response to Arguments

2. Applicant's arguments filed 1/16/2007 regarding claim 1 have been fully considered but they are not persuasive. Applicant argues that Palmaz (U.S. 7,793,348) does not disclose a first region including a plurality of struts extending longitudinally through the first region and being unconnected in the first region. However, looking at fig. 1A of Palmaz, the first region can be considered the section of the filter shown in fig. 1A that starts just proximal of the distal end (24) and ends before the struts connect together at 32a.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 12** is rejected under 35 U.S.C. 102(b) as being anticipated by Okada (U.S. 6,093,196). Okada discloses a vessel filter comprising first and second regions, the filter being movable between a collapsed position for delivery to the vessel and an expanded position for

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placement within the vessel, the filter being substantially bell-shaped in the expanded position, the first region of the filter (proximal portion of struts 12) having a converging region at a first end portion, the second region of the filter (distal half of filter starting at midway point of struts 12) having a mounting portion (widest area 9c) for mounting the vessel filter within the vessel, the mounting portion including a flared region, the second region including a plurality of struts extending from the filter portion, the struts having a first dimension and dividing at a first end (at 9c in fig. 11) into oppositely directed struts of a second widthwise dimension and then converging with an oppositely directed strut of an adjacent strut. The first widthwise dimension is larger than the second widthwise dimension.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-8, 10, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmaz (U.S. 4,793,348) in view of Weldon et al. (U.S. 6,468,290). Palmaz discloses a vessel filter comprising a first region and a second region, the filter movable between a collapsed position for delivery to the vessel and an expanded position for placement within the vessel, the first region having a filter portion having a converging region at a first end portion to direct particles toward the center of the filter, and the second region being flared in the expanded position to have a transverse dimension increasing toward a second end portion opposite the first end portion and including a plurality of spaced apart struts (50) with adjacent struts being joined (Fig. 1B and 2). The first region can be considered the section of the filter shown in fig.

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1A that starts just proximal of the distal end (24) and ends before the struts connect together at 32a.

6. Palmaz discloses vessel engaging hooks (54) at the ends of the struts, but does not disclose that there are a first set of hooks and a second set of hooks, the first set of hooks being axially spaced from the second set of hooks so the second set of hooks terminates proximally of the first set of hooks.

7. However, Weldon et al. discloses that it is old and well known to employ two sets of hooks on a filtering device, a first set being axially spaced from a second set such that the second set of hooks terminates proximally. Weldon et al. discloses that this two point contact at different planes provides several advantages including the following: reduces the collapsing of the cava by reinforcement of the walls, reduces contact pressure on the Vein walls originating from each of the wire ends which in turn reduces trauma to the vessel wall and makes removal of the device easier, and reduces likelihood of filter tilting (see col. 4 ll. 40-64). Therefore, it would have been obvious to one of ordinary skill in the art to modify the device of Palmaz to include a first set of hooks and a second set of hooks, the first set of hooks being axially spaced from the second set of hooks so the second set of hooks terminates proximally of the first set of hooks as made obvious by Weldon et al. in order to gain the advantages listed above.

8. Regarding claims 2, 3, and 10, the adjacent struts are joined by two connecting struts (30a, 30b), each of the two connecting struts extending inwardly toward the other connecting struts. As seen in Fig. 2, the connecting struts converge at their ends to form a substantially V-shaped configuration.

9. Regarding claim 4, the vessel engaging hooks extend from a terminal end of the struts (54).

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10. Regarding claims 5-7, the struts divide widthwise at an end portion (34) to form two connecting struts that extend away from each other, each connecting strut extending toward the connecting strut of an adjacent strut. The connecting struts of adjacent struts are joined at an intermediate region and further extend away from each other to join the connecting strut emanating from the same strut. As seen in Fig. 2, the connecting struts form a closed oval like region (44b). The divide is considered widthwise because the width right before the split (slightly enlarged area) splits into struts whose widths are separated by space.

11. Regarding claim 8, Palmaz discloses that filters made of a shape memory material such as nitinol are old and well known. Palmaz further discloses the filter is formed from a laser cut tube composed of shape memory material (col. 3 line 9 and col. 7 lines 53-57).

12. Regarding claim 11, the adjacent struts are interconnected by strut portions that initially extend away from each other and then extend towards one another forming a closed geometric configuration (44b).

13. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Palmaz in view of Weldon et al. as applied to claim 1 above, and further in view of Russell (U.S. 6,958,074). Modified Palmaz discloses the invention substantially as stated above, but fails to disclose a plurality of axially spaced cutouts or recesses configured to receive a removal tool such as a retrieval snare to remove the filter from the vessel. 21. However, Russell discloses that it is old and well known in the art to include a structure on the end of a vessel filter such as a hook or a coil as seen in Fig. 9D. This structure allows the filter be grasped or snared by a retrieval instrument for eventual removal of the filter (col. 9 lines 43-45). The helical structure has a plurality of recesses in the retrieval instrument can hook on to. Therefore, it would have been obvious to one of ordinary skill in the art to include a helical structure on the end of the device of

Palmaz as made obvious by Russell in order to gain the advantage of having being able to easily remove the filter once it is no longer needed.

14. **Claims 12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmaz in view of Bosma et al. (U.S. 6,443,972). Palmaz discloses a vessel filter comprising first and second regions, the filter being movable between a collapsed position for delivery to the vessel and an expanded position for placement within the vessel, the filter being substantially bell-shaped in the expanded position, the first region of the filter having a converging region at a first end portion, the second region of the filter having a mounting portion for mounting the vessel filter within the vessel, the mounting portion including a flared region, the second region including a plurality of struts extending from the filter portion, the struts having a first dimension and dividing at a first end into oppositely directed struts of a second widthwise dimension and then converging with an oppositely directed strut of an adjacent strut. Palmaz fails to disclose that the first widthwise dimension is larger than the second widthwise dimension.

15. However, Bosma et al. discloses that having struts with a first widthwise dimension that divide into two struts each having smaller widthwise dimensions than the first on a filter is well known in the art. Bosma et al. shows an embodiment of a filter that is manufactured using a tubular element that is cut such that struts are formed upon expansion of the filter. This simplifies the manufacturing of the filter (col. 5, ll. 58-65). Palmaz uses a tubular body with a more complicated slot pattern etched into the tub. Applying cuts that are single slots like the ones shown in fig. 7 (and fig. 8 in expanded configuration) of Bosma offers a less complicated etching pattern. Therefore, it would have been obvious to one of ordinary skill in the art to modify the device of Palmaz to include struts that divide such that the first widthwise dimension is larger than the second widthwise dimension as made obvious by Bosma et al. in order to simplify manufacturing.

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16. Regarding claims 13 and 15, see hooks (54).
17. Regarding claim 14, the oppositely directed struts emanating from the end of another strut are rejoined at a second end.

Allowable Subject Matter

18. Claims 18-26 are allowed.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen Sonnett whose telephone number is 571-272-5576. The examiner can normally be reached on 7:30-5:00, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anh Tuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCS 3/5/2007


GLEN W. DAWSON
PRIMARY EXAMINER